



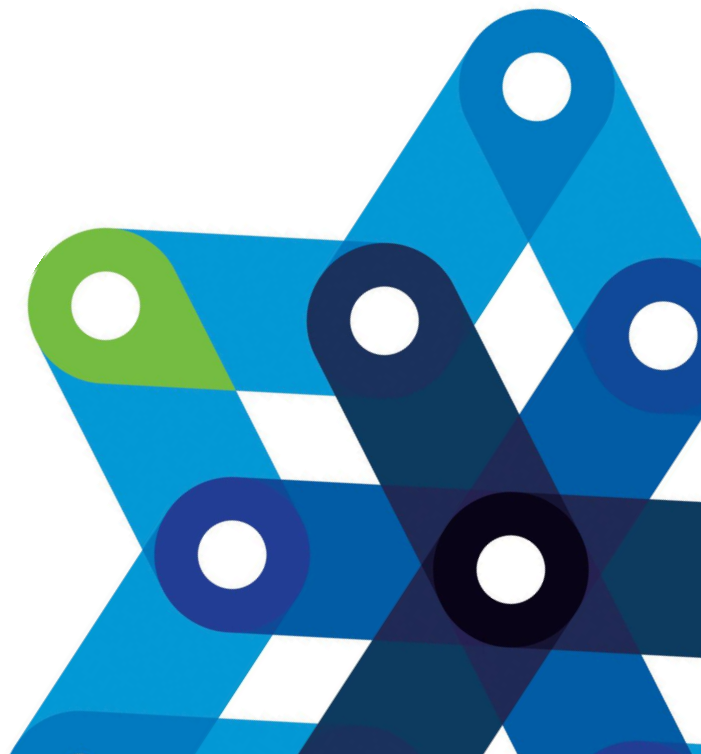
Government of **Western Australia**
Department of **Treasury**

Western Australia's Submission to the

Commonwealth Grants Commission's 2020 Methodology Review

Supplementary Submission

March 2019



Key Points

- Updated data illustrates that low access to residential aged care creates significant cost pressures in the Western Australian health system. Using 2017-18 average bed day cost data, patients awaiting aged care services cost Western Australian public hospitals approximately \$56.3 million in 2017-18.
 - There are significant differences across States in the availability of aged care places, as well as Commonwealth spending on residential aged care, which should be assessed.
- We have identified another mathematical flaw in the admitted patient services substitutability calculation.
- The prevalence of illicit drugs, particularly methamphetamine, is a significant issue for Western Australia. WA Police have recently estimated that 95% of the methamphetamine is being brought into Western Australia via international waters, due to our vast and remote coastline and under-resourced Commonwealth surveillance.
- Any proposal that towns over 1,000 population not be assessed as having differential water subsidies would inappropriately exclude Kalgoorlie, which requires water to be piped long distances as there is no viable local water source.
- We have previously suggested using regression analysis to determine the proportion of Services to Industry expenses that relate to population. Including more recent data has improved our analysis, and continues to suggest that the CGC's judgement-based proportions are too high.
- We provide an example where a material assessment can appear immaterial when materiality is tested in an iterative way.
 - We argue that the CGC should not test materiality in an iterative way but rather test materiality at the broadest conceptual disaggregation possible.

This submission uses new data to update some analysis Western Australia has previously provided on aged care costs, the under-resourcing of Commonwealth surveillance of Western Australia's coastlines, and a regression of the proportion of Services to Industry costs that relate to population. It also includes some new analysis on mathematical flaws in the assessment of substitutable admitted patient services and the problems with an iterative assessment of materiality. The submission builds on our previous 2020 Review submissions.

The submission does not include any comments on the Wages assessment, as we consider this has been sufficiently covered in our email correspondence with CGC staff.

Health

Aged care services

As noted in our Submission to the Commonwealth Grants Commission's *2020 Methodology Review, Draft Assessment Papers*, Western Australia has the lowest rate of Commonwealth-funded residential aged care of any State, approximately 16% lower than the national average in 2016-17. This low access to residential aged care creates significant cost pressures in the Western Australian health system. We request that the CGC consider this disability further in light of that submission, and updated data presented here.

The relatively poor access to residential aged care in Western Australia is compounded by the lower number of Western Australians receiving Commonwealth Home Care Packages than would be expected, based on Western Australia's share of the national older population. As at 30 September 2018, people from Western Australia received 8.9%¹ of the national total of Home Care Packages compared to Western Australia's share of the national eligible older population of 9.8%.²

The Western Australia Department of Health has provided the following updated information regarding patients awaiting aged care services in Western Australian public hospitals:

- For the 2017-18 financial year, 2,404 unique patients spent some of their public hospital episode of care classified as Patients Awaiting Aged Care Services.
- This cohort spent 29,165 bed days³ awaiting an aged care service over this period.
- Using the 2017-18 average bed day cost of \$1,930 per day, the total cost to the Western Australian health system for this cohort was approximately \$56.3 million in 2017-18.

This cost is regarded as a short run cost only, as it does not include the indirect costs that result from people in the community who require, but cannot access, an aged care service due to poor availability, but then present to a public hospital following clinical deterioration or an incident to which the lack of aged care service has contributed. The \$56.3 million could therefore be seen as the minimum burden on the Health sector.

¹ Australian Institute of Health and Welfare (AIHW) (2019), *Home Care Packages Program Data Report 2nd Quarter (2018-19)*, page 15, Table 12.

² The older population, used throughout this section, has been calculated as the population 60 years and older, plus the 50-59 year-old Aboriginal and Torres Strait Islander population, in line with the eligibility criteria of the programme. This definition also applies to population shares in Table 1 and Table 2. Excluding the Aboriginal and Torres Strait Islander group changes Western Australia's share of older people only slightly from 9.8% to 9.7%. Australian Bureau of Statistics publications, cat. no. 2077.0 and cat. no. 3101.0, with WA Treasury calculations.

³ The 'Patients Awaiting an Aged Care Service' data, as provided by the Western Australia Department of Health, is not directly comparable to the Productivity Commission's 'Hospital Days' data presented in Table 1. For more information on 'Patients Awaiting an Aged Care Service' see: Government of Western Australia, Department of Health (2017), *Patients Awaiting an Aged Care Service (PAACS). Data Dictionary Version 1.2.*

- We understand that one of the principal subsidiary committees of the Australian Health Ministers Advisory Council (AHMAC) is considering a national data collection, or at least, a snapshot audit in this area.

The Productivity Commission's *2018 Report on Government Services* highlights differences between States in the availability of aged care services. These differences are presented in Table 1 and Table 2.

- Queensland, South Australia and Western Australia had significantly more patients awaiting aged care services per capita than the other States in 2015-16.

The higher burden of patients awaiting aged care services can be explained by differences across States in the availability of aged care places, as well as Commonwealth spending on residential aged care.

Table 1: Patients awaiting aged care services by State, 2016-17

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Hospital days ^(a)	103 620	4 791	125 207	55 476	48 528	6 320	5 873	3 880
States' share of hospital days (%) ^(b)	29.3%	1.4% ^(c)	35.4%	15.7%	13.7%	1.8%	1.7%	1.1%
States' share of the older population 2016-17 (%) ^(d)	32.8%	24.9%	19.7%	9.7%	8.0%	2.7%	1.4%	0.7%
Difference (%)	-3.5%	-23.5%	+15.7%	+6.0%	+5.7%	-0.9%	+0.3%	+0.4%

Source: Productivity Commission (2019), *Report on Government Services 2019*, Chapter 14: Aged care services.

- (a) Number of days spent as a hospital patient by those eligible and waiting for residential aged care.
 (b) States' share of total 'Hospital days' from the line above.
 (c) Victoria has developed alternative care pathways for older people waiting for residential aged care to be supported outside the acute hospital system. These alternative care pathways impact on the data reporting the number of hospital patient days by those eligible and waiting for residential aged care.
 (d) Australian Bureau of Statistics publications, cat. no. 2077.0 and cat. no. 3101.0, with WA Treasury calculations.

Table 2: Aged care services by State, 2017-18

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
States' share of the older population 2017-18 (%) ^(b)	32.7%	24.9%	19.8%	9.8%	8.0%	2.7%	1.4%	0.7%
Number of operational aged care places	70 536	54 599	38 864	16 811	18 112	5 065	2 630	525
States' share of operational places (%)	34.1%	26.4%	18.8%	8.1%	8.7%	2.4%	1.3%	0.3%
Difference from older people population share (%)	+1.4%	+1.5%	-1.0%	-1.7%	+0.7%	-0.3%	-0.1%	-0.4%
Commonwealth expenditure (\$m) ^{(c)(d)}	5 628	4 569	3 385	1 614	1 562	456	248	103
States' shares of Commonwealth expenditure (%)	31.7%	25.7%	19.0%	9.1%	8.8%	2.6%	1.4%	0.6%
Difference from older people population share (%)	-1.0%	+0.8%	-0.8%	-0.7%	+0.8%	-0.1%	+0.0%	-0.1%

Source: Productivity Commission (2019), *Report on Government Services 2019*, Chapter 14: Aged care services.

- (a) Relative number of operational aged care places per 1,000 people aged 70 years or over, including Aboriginal and Torres Strait Islander Australians aged 50-69 years, 30 June 2018. Excluding the Aboriginal and Torres Strait Islander group increases the relative number to 0.894 for Western Australia.
 (b) Australian Bureau of Statistics publications, cat. no. 2077.0 and cat. no. 3101.0, with WA Treasury calculations.
 (c) State and Territory Government expenditure is subtracted from total government expenditure of aged care services.
 (d) Not all Commonwealth, State and Territory government aged care expenditure is included in these estimates. For example, capital expenditure by the Commonwealth, State or Territory governments is excluded.

Western Australia would like the CGC staff to:

- consider the relative cost to States' of inconsistent Commonwealth support for aged care services across States.

Substitutability of admitted patient services

Our position on the CGC's proposed method to measure the effect of non-State health services on States' budgets is well documented. We are of the opinion that the proposed approach in the 2020 Review is mathematically flawed and will underestimate the substitutability of health services.

It should make no difference whether equalisation is presented in the form of a 'subtraction approach' as used in the 2010 Review, or in the form of a factor assessment approach as used in the 2015 Review. If implemented correctly, the two can deliver the same results.

We have discussed our position at length with CGC staff. They committed to calculating a hypothetical example where the private sector and the State sector are not exactly equal, using both the 'subtraction approach' and 'factor assessment/direct method', to test our claim that the two methods using the current CGC methodology will not yield identical results. We understand the current work pressures of the CGC and await confirmation on the outcome of their calculations.

We have also recently identified a further example of a mathematical flaw in the model, in relation to the admitted patient services substitutability calculation.

In its Staff Discussion Paper on substitutability levels⁴, the CGC proposes to calculate admitted patient services substitutability levels as follows:

- About 40% of (public)⁵ admitted patient separations are emergency-type services which are generally not provided by private hospitals. Therefore, only 60% of all (public) admitted patient services are regarded as substitutable.
- At the national level, the proportion of people with private health insurance hospital cover is 47%. A person without private health insurance will rarely attend a private hospital, regardless of the availability of private health services in their State.
- As such, the estimated level of potential substitutability is $60\% \times 47\% = 28\%$.⁶

⁴ Commonwealth Grants Commission (2018), *2020 Review – Review of substitutability levels for the health category*, Staff discussion Paper CGC 2018-05-S.

⁵ 'Public admitted patient separations' is used in the CGC's 2020 Review discussion paper, but 'admitted patients separations' is used in its 2015 Review report.

⁶ *ibid.*, page 4, paragraph 14.

- While not clear, the apparent implication of this calculation is that 47% of the public admitted patient separations, that are not emergency-type services, are privately insured.

For simplicity we exclude emergency services from the analysis.⁷

Suppose the following notation:

State Hospital, Insured S_i	Private Hospital, Insured P_i	Total, Insured $(S_i + P_i)$
State Hospital, Uninsured S_u	Private Hospital, Uninsured P_u	Total, Uninsured $(S_u + P_u)$
State Hospital, Total $S_{(i+u)}$	Private Hospital, Total $P_{(i+u)}$	Total, Total $(S_{(i+u)} + P_{(i+u)})$

Subject to the issue of interpretation noted above, according to the CGC⁸:

$$(S_i + P_i) = 47\% \times (S_{(i+u)} + P_{(i+u)}) \quad (1)$$

$$P_u = 0 \quad (2)$$

From this, we deduce the following:

$$(S_u + P_u) = 53\% \times (S_{(i+u)} + P_{(i+u)}) \quad (3)$$

$$P_i = P_{(i+u)} \quad (4)$$

From (1) & (4)

$$S_i = 47\% \times (S_{(i+u)} + P_{(i+u)}) - P_{(i+u)} \quad (5)$$

From (2) & (3)

$$S_u = 53\% \times (S_{(i+u)} + P_{(i+u)}) \quad (6)$$

The percentage of State hospital patients that are insured is:

$$S_i / S_{(i+u)} = 47\% \quad (7)$$

⁷ Emergency services could be included in the example, but would complicate the notation without adding any value, and without changing the conclusion.

⁸ *ibid.*, page 4, paragraph 14.

Converting (5) into the percentage of insured State hospital patients:

$$\begin{aligned}\frac{S_i}{S_{(i+u)}} &= \frac{47\% \times (S_{(i+u)} + P_{(i+u)}) - P_{(i+u)}}{S_{(i+u)}} \\ &= 47\% - \frac{53\% \times P_{(i+u)}}{S_{(i+u)}}\end{aligned}$$

The CGC assumes that $\frac{S_i}{S_{(i+u)}} = 47\%$, but, it is clear that this is only true if $P_{(i+u)} = 0$, implying there is no private sector. This is clearly not the case. Is it therefore the CGC's intention that the private and public hospitals be treated in aggregate for substitutability purposes?

Although we note that a substitutability less than 47% is ultimately employed (because a substitutability of 15%, rather than $60\% \times 47\% = 28\%$ is used in the model), this was considered to be an upper bound due to "other policy and non-policy influences"⁹, rather than an appropriate conceptualisation in developing this factor-based assessment.

This highlights the lack of clarity on what the CGC means by substitutability, and how it relates to the savings that a State achieves when an above average level of private services is provided in that State.

- We remain convinced that actual substitutability between State and non-State services occurs within the confined parameters of complete substitutability (100%)¹⁰, rather than viewed as a concept of overall substitutability between the sectors.

Western Australia would like the CGC staff to:

- fully critique and respond to the algebraic flaws in the health substitutability model that we have highlighted.

Justice

Police

As noted at the CGC State visit to Western Australia, the prevalence of illicit drugs, particularly methamphetamine, is a significant issue for the Western Australian community and law enforcement bodies. The Australian Criminal Intelligence Commission (ACIC) *National Wastewater Drug Monitoring Program*¹¹, released in December 2018, reports that in 2018 Western Australia had the highest metropolitan and regional average consumption of methamphetamine in Australia.

⁹ Commonwealth Grants Commission (2018), *Health*, Staff Draft Assessment Paper CGC 2018-01/12-S, page 20.

¹⁰ See *Western Australia's Submission to the Commonwealth Grants Commission's 2020 Methodology Review – Draft Assessment Papers*, 2018, Box 8.2, page 84.

¹¹ Australian Criminal Intelligence Commission (December 2018), *National Wastewater Drug Monitoring Program*, Report 6.

WA Police estimate that 95% of the methamphetamine arriving in Western Australia is being brought into the State via international waters. Western Australia accounts for approximately 36% of Australia's mainland coastline length; 38% when including offshore island length. The vast border poses an immense challenge for law enforcement to detect and intercept suspicious maritime vessels and aircraft.

- The ACIC *Illicit Drug Data Report 2016-17*¹², highlights the majority of amphetamine-type stimulants (primarily methamphetamine), by weight, detected at the border were imported via sea cargo (57.7%) and air cargo (23.4%). International mail made up 18.7%.
- The majority of methamphetamine importations originate from South East Asia, in particular from Chinese ports.

Traditionally, the preferred entry points exploited by organised crime groups have been in eastern states, particularly New South Wales and Victoria. In response to this activity, greater Commonwealth law enforcement focus has been applied to these locations. However, organised crime groups are known to adapt to avoid detection.

- Large methamphetamine seizures over the past couple of years in Western Australia suggest syndicates are attempting to exploit vulnerabilities in Western Australia's vast and remote border to import illicit drugs.
 - For example, a 1.3 tonne methamphetamine seizure in December 2017 in Geraldton was the highest on record for Australia.

Organised crime groups take the opportunity to conceal importations within legitimate cargo as a direct supply route to Western Australia. Regional ports can be more vulnerable to criminal activity due to the fewer law enforcement personnel, and lower-level infrastructure and detection capabilities.

- While the larger imports generally come via international vessels, the use of domestic vessels, charter boats and light aircraft¹³ to courier drugs is a vulnerability due to minimal reporting requirements and low risk of detection.

Patrolling of Australia's borders is a Commonwealth responsibility, and although patrol ships are prevalent on the east coast of Australia, numbers are substantially lower off the west coast. A greater surveillance of the Western Australian border will help reduce the supply of methamphetamine into the State and, as a result, should also reduce the flow-on supply to other jurisdictions.

¹² Australian Criminal Intelligence Commission (July 2018), *Illicit Drug Data Report 2016-17*, page 11.

¹³ The distance between Broome and Indonesia is approximately 1,300km, which is a feasible distance for light aircraft to travel.

Under-resourced Commonwealth surveillance is costly for the State's economy in general. It is widely recognised that illicit drugs, particularly methamphetamine, cause disproportionate community harm and its emergence is putting enormous stress on families and the community, with extensive impact on State services such as policing, health and mental health.

- Drug users tend to display violent and aggressive behaviour when under the influence, whilst drug addiction drives some users to steal, commit robberies and burglaries, and arm themselves with weapons to fund their habit.

Western Australia has implemented the Methamphetamine Action Plan (MAP), with an allocation of \$171 million over 2017-18 to 2021-22. This includes direct funding to the WA Police Force of \$104 million to create the Meth Border Force initiative.

In addition, the MAP will enable Western Australia to implement initiatives to further reduce meth-related harm in the community, such as:

- providing early intervention treatment facilities;
- expanding specialist drug services into rural and regional areas of need;
- improving drug and alcohol programs in schools;
- creating drug and alcohol rehabilitation facilities for prisoners; and
- increasing roadside drug and alcohol testing.

Western Australia would like the CGC staff to:

- consider the influence of the unpatrolled borders on the cost of detection and use of illicit drugs in Western Australia.

Services to Communities

Water subsidies

We understand the CGC staff may be considering an assessment that restricts differential subsidies to towns with populations under 1,000 people.

- A major concern for Western Australia is that the substantial subsidies paid to many of its regional towns over 1,000 population would not be differentially assessed.

While a differential assessment may be inappropriate for some such towns nationally, it is appropriate for towns such as Kalgoorlie, which is far from any viable water source. Under any policy choice, providing water to Kalgoorlie would be high cost. It cannot rightly be excluded. The CGC is excluding towns such as Kalgoorlie on the basis of partial analysis that considers only population size.

It should also be noted that, while the CGC's data may show smaller per capita subsidies for larger towns, their aggregate subsidies may still be large.

Western Australia would like the CGC staff to:

- acknowledge the need for a differential assessment for larger towns such as Kalgoorlie, and adjust the assessment accordingly.

Services to Industry

We previously proposed to the CGC staff that they could use regression analysis to determine the proportion of Services to Industry expenses that is actually driven by population, rather than making a presumption about the drivers of business development. However, CGC staff expressed concern about the low R-squared for our regression for agriculture.

Our previous analysis covered the data years 2010-11 to 2015-16. We have now used more recent data to extend this to cover the data years 2010-11 to 2017-18. The result is a moderate improvement in the R-squared for the agriculture regression.

In any case, the R-squared for each regression is significantly better than the R-squared for the CGC's results, as shown in Table 3.¹⁴

Table 3: Services to Industry Regressions versus CGC Estimates

	Regression approach ^(a)	CGC approach
R-squared		
Agriculture	0.35	0.18
Other Industries	0.64	0.15
Proportion related to population		
Agriculture	54%	67%
Other Industries	61%	83%

Source: Western Australian Department of Treasury calculations using CGC data for 2010-11 to 2017-18.

- (a) Actual per capita expenses (averaged over the eight data years) regressed against the per capita explanatory variables used by the CGC (agriculture factor income, number of agricultural establishments, other industries factor income, and private non-dwelling construction), eliminating variables that have a negative co-efficient. Regression constants give the portion related to population.

Western Australia would like the CGC staff to:

- consider adopting a simple regression model to determine the drivers of States' spending on Services to Industry.

¹⁴ Further details on the regression analysis is attached to the email from WA Treasury. WA Treasury is happy for this to be shared

Materiality

As noted in our July 2017 *Submission to the Commonwealth Grants Commission's 2020 Methodology Review, The Principle of HFE and its Implementation*, the implementation of materiality thresholds by the CGC follows an approach that 'slices' out small components at the CGG's discretion.¹⁵

We have noted that the discretion used by the CGC leads to inconsistency in implementation of materiality thresholds. In defence of this discretion, the CGC has noted that it would retain a disability below the materiality threshold if "removing the disability has a significant impact on the conceptual rigour and reliability of the assessments".¹⁶

We want to point out that a process of adding or deleting new data bands at the margin risks unreliable outcomes. We have recently developed a case study on stamp duty (see below) to illustrate this concern.

We consider that, to ensure the conceptual rigour and reliability of the assessments, a conceptual basis should be considered in choosing any disaggregation. For example, the CGC proposed to disaggregate the patient age group '75+' into 2 groups; '75-84' and '85+' if material in the Health assessment,¹⁷ and similarly for disaggregating remoteness in the Health assessment.¹⁸ However, it is conceptually clear that age matters with regard to health expenditure. Natural changes in medical requirements at different life stages will provide a conceptual basis as to appropriate age bands. Data can be used to confirm these. The same goes for remoteness. It is the disability that results from disaggregation into these conceptually-determined age bands that should then be subject to a materiality test. If material, the bands are adopted.

Stamp duty case study

The CGC adjusts stamp duty revenue by considering 16 value-ranges. Cumulatively, this disaggregation adjustment redistributes GST in a range from \$53 per capita for New South Wales to \$68 per capita for Tasmania, compared to an assessment without value ranges. This disaggregation has a significant impact on the stamp duty assessment and makes intuitive sense (on the surface, if one accepts the conceptual appropriateness of employing value ranges).

¹⁵ The CGC notes that "Each case is considered separately" – CGC Position Paper on *The Principle of HFE and its Implementation*, September 2017, page 34.

¹⁶ *ibid*, page 40.

¹⁷ Commonwealth Grants Commission (2018), *2020 Review – Health, Staff Assessment Paper* CGC 2018-01/12-S, page 18, paragraph 63.

¹⁸ *ibid*, page 18, paragraph 62.

- However, suppose there was just one aggregated value range, and the CGC had to consider whether to disaggregate into two groups ('\$1-\$100,000' and 'the rest').¹⁹ Considering the materiality of this disaggregation (similar to disaggregating 'remote and very remote' to 'remote' and 'very remote' or '75+' to '75-84' and '85+') we see that the disaggregation is not material (according to CGC's current methodology of a \$30 per capita impact). The largest impact is for Tasmania at \$3 per capita.
- Disaggregating two groups into three groups ('\$1-\$100,000', '\$100,001-\$200,000' and 'the rest') is also not material (highest per capita impact is for Tasmania again, at \$13 per capita), as shown in Table 4.
- If an iterative approach was imposed on the stamp duty value ranges then only one of the 15 marginal disaggregations would be material (disaggregating \$300,000-\$400,000 from 'the rest'), and this may change over time.

The CGC uses an iterative approach in some assessments and not others. It is not used in the Stamp Duty assessment. However if an iterative approach was used, it would not be material to disaggregate into value ranges, as shown in Table 4. Therefore, the materiality treatment in the Stamp Duty assessment is not consistent with the proposed materiality treatment to disaggregate the 'remote and very remote' and '75+' factors in the Health assessment.

¹⁹ The order and level of aggregation/disaggregation was selected for simplicity. These marginal calculations are by no means exhaustive.

Table 4: Per capita impact of value range category disaggregation

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
1 to 2 groups	0.55	0.44	-0.49	-0.69	-1.02	-2.92	0.96	-0.15
2 to 3 groups	4.41	-1.23	-1.87	-2.14	-4.26	-12.73	5.45	-2.04
3 to 4 groups	-4.74	0.64	2.87	2.50	4.30	11.29	-1.90	0.74
4 to 5 groups	22.77	-0.23	-16.35	-12.76	-22.05	-46.71	-2.23	-5.04
5 to 6 groups	11.77	0.43	-10.45	-6.21	-8.89	-9.55	-15.80	-4.53
6 to 7 groups	8.69	-2.07	-6.25	-3.25	-4.91	-4.21	-11.11	-3.33
7 to 8 groups	4.04	-0.88	-3.14	-1.19	-2.44	-1.95	-5.02	-1.65
8 to 9 groups	2.36	-0.75	-1.38	-0.99	-1.18	-1.24	-4.46	-0.03
9 to 10 groups	1.37	-0.44	-0.71	-0.82	-0.75	-0.34	-2.61	0.50
10 to 11 groups	0.70	-0.60	0.00	-0.37	-0.12	-0.02	-1.62	0.35
11 to 12 groups	0.36	-0.39	0.06	-0.27	-0.02	0.12	-0.27	0.36
12 to 13 groups	0.21	-0.31	0.10	-0.14	-0.03	0.21	0.12	0.32
13 to 14 groups	0.22	-0.37	0.17	-0.15	0.06	0.17	-0.06	0.28
14 to 15 groups	0.12	-0.27	0.15	-0.05	0.02	0.17	-0.02	0.20
15 to 16 groups	0.08	-0.20	0.13	-0.05	0.02	0.10	0.09	0.18
Total	53	-6	-37	-27	-41	-68	-38	-14

Western Australia would like the CGC staff to:

- propose that, if the Commission is determined to have materiality tests, the Commission adopt a simpler application of materiality to broader underlying disabilities, not the elements that feed into their calculations. As such, the CGC should consider a conceptual disaggregation, in the broadest way possible, before testing for materiality, and not test in an iterative way.